

DIOTEC ELECTRONICS CORP.
18020 Hobart Blvd., Unit B
Gardena, CA 90248 U.S.A
Tel.: (310) 767-1052 Fax: (310) 767-7958

Data Sheet No. BRSB-500-1C

5 AMP SILICON BRIDGE RECTIFIERS

FEATURES

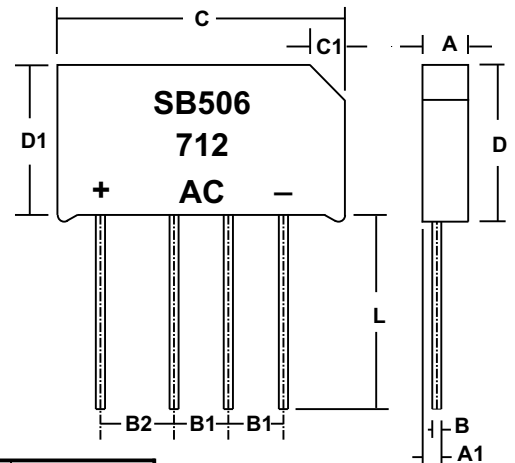
- VOID FREE VACUUM DIE SOLDERING FOR MAXIMUM MECHANICAL STRENGTH AND HEAT DISSIPATION (Solder Voids: Typical < 2%, Max. < 10% of Die Area)
- BUILT-IN STRESS RELIEF MECHANISM FOR SUPERIOR RELIABILITY AND PERFORMANCE
- SURGE OVERLOAD RATING TO 200 AMPS PEAK
- IDEAL FOR PRINTED CIRCUIT BOARD APPLICATIONS
- RELIABLE LOW-COST MOLDED PLASTIC CONSTRUCTION
- **RoHS COMPLIANT**

MECHANICAL DATA

- Case: Molded Epoxy (UL Flammability Rating 94V-0)
- Terminals: Round silver plated pins
- Soldering: Per MIL-STD 202 Method 208 guaranteed
- Polarity: Marked on case
- Mounting Position: Any
- Weight: 0.38 Ounces (10.6 Grams)

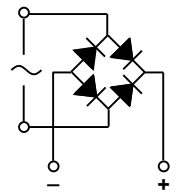
MECHANICAL SPECIFICATION

SB5 PACKAGE SHOWN ACTUAL SIZE



SYM	MILLIMETERS		INCHES	
	TYP	MAX	TYP	MAX
A	6.4		0.250	
A1	2.06		0.070	
B	1.27		0.05	
B1	7.6		0.300	
B2	10.2		0.400	
C	39.9		1.570	
C1	4.8		0.188	
D	21.7		0.855	
D1		21.0		0.820
L	25.4*		1.0*	

* This measurement is a "Minimum"



SERIES SB500 - SB510

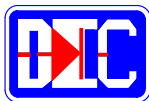
MAXIMUM RATINGS & ELECTRICAL CHARACTERISTICS

Ratings at 25 °C ambient temperature unless otherwise specified.
Single phase, half wave, 60Hz, resistive or inductive load.
For capacitive loads, derate current by 20%.

PARAMETER (TEST CONDITIONS)	SYMBOL	RATINGS								UNITS
Series Number		SB 500	SB 501	SB 502	SB 504	SB 506	SB 508	SB 510		
Maximum DC Blocking Voltage	V _{RM}	50	100	200	400	600	800	1000	VOLTS	
Maximum RMS Voltage	V _{RMS}	35	70	140	280	420	560	700		
Maximum Peak Recurrent Reverse Voltage	V _{RRM}	50	100	200	400	600	800	1000		
Average Forward Rectified Current @ T _A = 55°C	I _O	5								AMPS
Peak Forward Surge Current. Single 60Hz Half-Sine Wave Superimposed on Rated Load (JEDEC Method). T _J = 150° C	I _{FSM}	200								
Maximum Forward Voltage (Per Diode) at 5 Amps DC	V _{FM}	1.0 (Typical < 0.95)								VOLTS
Maximum Average DC Reverse Current @ T _A = 25° C	I _{RM}	1								μA
At Rated DC Blocking Voltage @ T _A = 100° C		50								
Typical Thermal Resistance Junction to Ambient (Note 1) Junction to Lead (Note 1)	R _{θJA} R _{θJL}	17 3.3								°C/W
Minimum Insulation Breakdown Voltage (Circuit to Case)	V _{ISO}	2500								VOLTS
Junction Operating Temperature Range	T _J , T _{STG}	-55 to +150								°C

NOTES: (1) Unit mounted on 3.0" sq. x 0.11" (7.5cm sq. x 0.3cm) aluminum plate

3.01 0598



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RATING & CHARACTERISTIC CURVES FOR SERIES SB500 - SB510

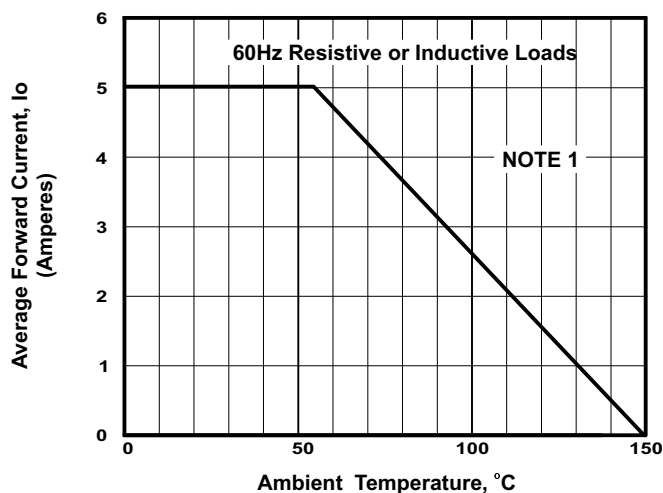


FIGURE 1. FORWARD CURRENT DERATING CURVE

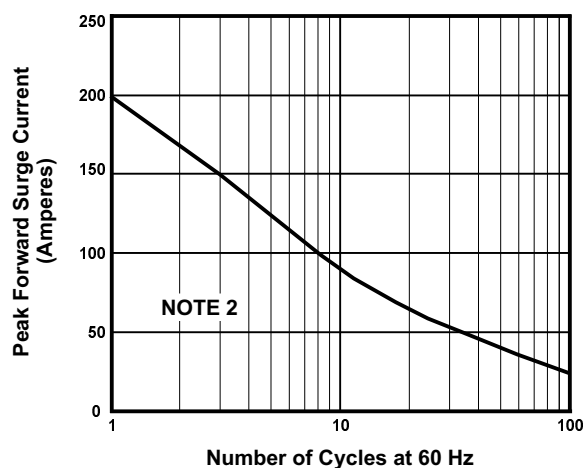


FIGURE 2. MAXIMUM NON-REPETITIVE SURGE CURRENT

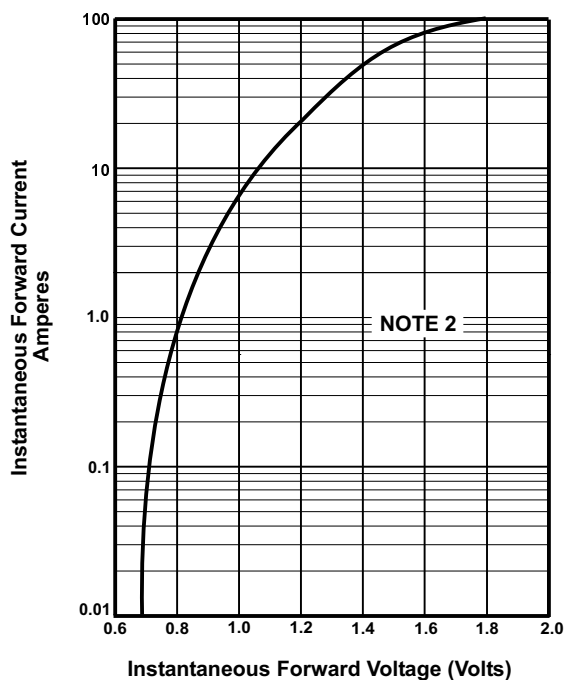


FIGURE 3. TYPICAL FORWARD CHARACTERISTIC PER DIODE

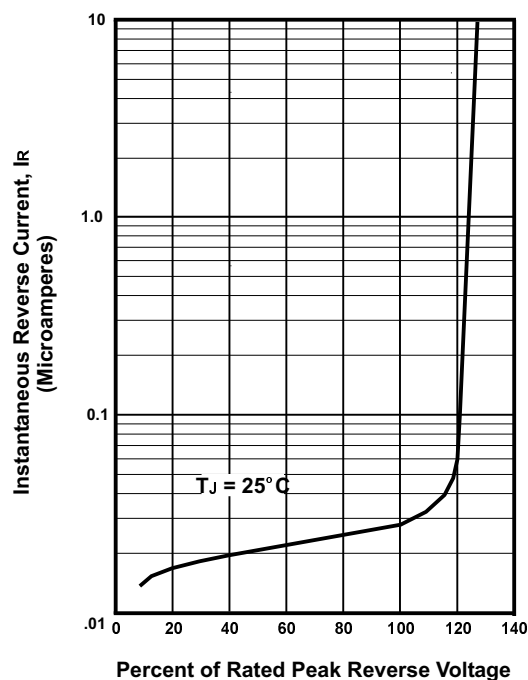


FIGURE 4. TYPICAL REVERSE CHARACTERISTICS

NOTES

- (1) Bridge Mounted on 3.0" sq. x 0.11" (7.5cm sq. x 0.3cm) Aluminum Plate
- (2) $T_J = 150^\circ\text{C}$
- (3) $T_J = 25^\circ\text{C}$; Pulse Width = 300 μSec ; 1% Duty Cycle